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CLAIMS

What is claimed is:

1. An air conditioning system for a vehicle comprising;
a compressor for compressing a refrigerant,
5 a condenser for condensing the refrigerant,
an evaporator for evaporating the refrigerant,
a discharge fluid line interconnecting said compressor and said
condenser,
a liquid fluid line interconnecting said condenser and said evaporator,
10 a suction fluid line interconnecting said evaporator and said
compressor,
a refrigerant leakage-warning device for providing a refrigerant
leakage-warning signal, and
a blow-off valve for simultaneously venting said liquid and suction
15 fluid lines in response to said refrigerant leakage-warning signal.
2. A system as set forth in claim 1 wherein said blow-off valve includes a
valve body with a liquid fluid passage and a suction fluid passage and an actuator or
for simultaneously venting said liquid and suction fluid lines in response to said
20 refrigerant leakage-warning signal.
3. A system as set forth in claim 2 wherein said actuator is electrically
connected to said leakage-warning device for receiving an electrical refrigerant
leakage-warning signal.

4. A system as set forth in claim 3 wherein said valve body includes a first movable wall defining a portion of said liquid fluid passage therein and a second movable wall defining a portion of said suction fluid passage therein, said actuator interconnecting said movable walls for simultaneously moving said walls and opening
5 said fluid passages in response to said electrical leakage-warning signal.

5. A system as set forth in claim 4 wherein said movable walls are integrally united with said valve body and include frangible sections, and said actuator includes a squib for providing an explosive force for fracturing and
10 separating said movable walls from said body to simultaneously open said liquid and suction fluid passages in response to said electrical leakage-warning signal.

6. A system as set forth in claim 5 wherein said valve body includes a squib cavity adjacent said fluid passages and said squib is disposed in said squib
15 cavity for creating a force within said squib cavity sufficient to fracture said frangible sections of said movable walls.

7. A system as set forth in claim 6 wherein said frangible sections are disposed between said squib cavity and said respective fluid passages.

8. A system as set forth in claim 4 wherein said movable walls are separate valve elements in sealing engagement with said respective fluid passages, and said actuator includes a biasing device for biasing each of said valve elements out of said sealing engagement, and a holding device for holding said separate valve
5 elements in said sealing engagement and for allowing said separate valve elements to be moved out of said sealing engagement by said biasing device in response to said electrical leakage-warning signal.

9. A system as set forth in claim 8 wherein said holding device comprises
10 a material that weakens in response to said electrical leakage-warning signal.

10. A blow-off valve for an air conditioning system for a vehicle having a compressor for compressing a refrigerant, a condenser for condensing the refrigerant,
15 an evaporator for evaporating the refrigerant, a discharge fluid line interconnecting the compressor and the condenser, a liquid fluid line interconnecting the condenser and the evaporator, a suction fluid line interconnecting the evaporator and the compressor, and a refrigerant leakage-warning device for providing a refrigerant leakage-warning signal, said blow-off valve comprising; a valve body with a liquid
20 fluid passage and a suction fluid passage, and an actuator for simultaneously venting said liquid and suction fluid passages in response to the refrigerant leakage-warning signal.

11. A blow-off valve as set forth in claim 10 wherein said actuator includes an electrical connection for being electrically connected to the leakage-warning device for receiving an electrical refrigerant leakage-warning signal.

5 12. A blow-off valve as set forth in claim 11 wherein said valve body includes a first movable wall defining a portion of said liquid fluid passage therein and a second movable wall defining a portion of said suction fluid passage therein, said actuator interconnecting said movable walls for simultaneously moving said walls and opening said fluid passages in response to the electrical leakage-warning
10 signal.

13. A method of venting refrigerant in an air conditioning system for a vehicle having a compressor for compressing a refrigerant, a condenser for condensing the refrigerant, an evaporator for evaporating the refrigerant, a discharge
15 fluid line interconnecting the compressor and the condenser, a liquid fluid line interconnecting the condenser and the evaporator, a suction fluid line interconnecting the evaporator and the compressor, and a refrigerant leakage-warning device for providing a refrigerant leakage-warning signal, said method comprising the step of;
simultaneously venting said liquid and suction fluid lines in response
20 to the refrigerant leakage-warning signal.

14. A method as set forth in claim 13 further defined as providing liquid and suction passages in a common valve body for fluid communication with the liquid and suction fluid lines, providing a first movable wall or defining a portion of the liquid fluid passage in the valve body, providing a second movable wall defining a
5 portion of the suction fluid passage in the valve body, and simultaneously moving the walls and opening the fluid passages by a common actuator.

15. A method as set forth in claim 14 further defined as sending an leakage-warning electrical signal to the actuator.